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Case Report

Incidental bilateral synchronous invasive breast cancer in a patient with low back pain

Incidental breast cancer

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Abstract
Bilateral synchronous invasive breast cancer is rare with an incidence of less than 3%. In the majority of the patients, the contralateral breast tumor is often diagnosed when noticing the lesion in the other breast during the physical examination due to a mass. Infrequently, the patient may be totally asymptomatic, as seen in this presented case. In this report, we present a rare case presenting with low back pain, which was then incidentally diagnosed as bilateral breast carcinoma.

Keywords
Invasive Ductal Carcinoma, Bilateral Breast Cancer, Synchronous Tumor

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Introduction

Breast cancer is the most frequently occurring cancer and the second leading cause of cancer death in women worldwide. Coping with the burden of breast cancer necessitates a deep understanding of the underlying etiology and a special focus on community screening programs. Various risk factors have been associated such as advanced age, female gender, personal or a family history of breast cancer, histological abnormalities such as lobular carcinoma in situ and proliferative changes with atypia, BRCA mutations, early menarche, late menopause, nulliparity, and exogenous hormone use [1]. Although it has been attributed to be the most common cancer type in women, bilateral breast cancer is rare and occurs in 1 to 2.6% of all patients with breast carcinoma [2]. In this report, we present a rare case presenting with lower back pain without any breast-related complaints, which was later incidentally diagnosed as bilateral breast carcinoma. This case is unique because a synchronous tumor in the breast is rare, especially when it is diagnosed incidentally in the search for another pathology.

Case Report

A 67-year-old female patient presented to the outpatient clinic for lower back pain. She was multiparous with 6 children, and her past medical history was unremarkable. There was no known disease in her family history, and there was no genetic disease running in the family. Complete physical examination was normal and laboratory parameters were within normal limits. Lumbar magnetic resonance imaging (MRI) revealed a focal lesion with suspected metastasis within the L5 vertebra corpus (Figure 1). Positron emission tomography/computerized tomography (PET/CT) did not show any F-18 fluorodeoxyglucose (FDG) uptake in the vertebra, however, lesions with FDG uptake were observed in both breasts (Figure 2). The patient underwent breast ultrasonography and mammography, which revealed solid lesions with high suspicion of malignancy (BIRADS 4C), and histopathological examination was recommended (Figure 3). Tru-cut biopsy from the lesion in the right inner lower and left inner lower quadrants of the breasts revealed bilateral invasive ductal carcinoma. Bilateral modified radical mastectomy was performed. The pathological specimen was consistent with invasive ductal carcinoma in the right inner lower quadrant of the right breast with a diameter of 0.9 cm. Axillary lymph nodes were negative for cancer cells (0 out of 19 lymph nodes). In the left breast, an invasive ductal carcinoma 0.7 cm in diameter and an accompanying ductal carcinoma in situ were detected in the inner lower quadrant. Axillary lymph nodes were also negative in the left breast (0 out of 15 lymph nodes). Estrogen and progesterone receptors were reported positive and Cerb-B2 (Her2/neu) was negative for both tumors. After the operation, the patient used tamoxifen as an adjuvant therapy for two years. After five years of follow-up, the patient was disease-free without any complaints.

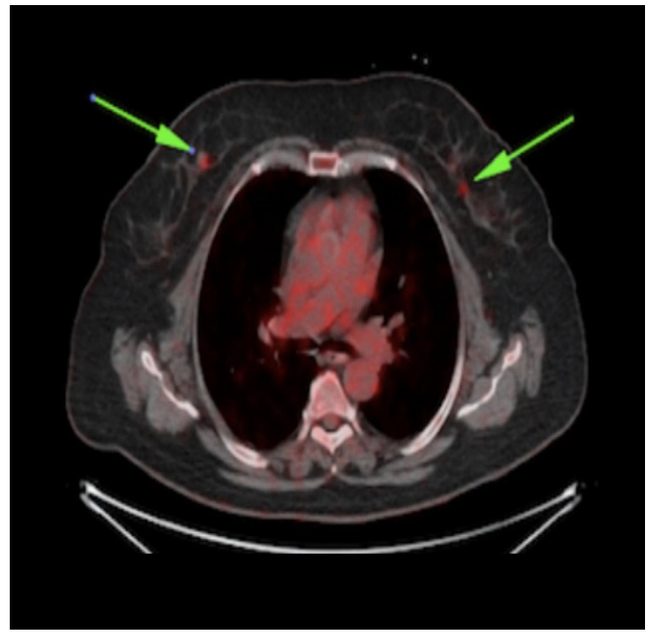

Figure 2. PET/CT scan showing FDG uptake in both breasts.

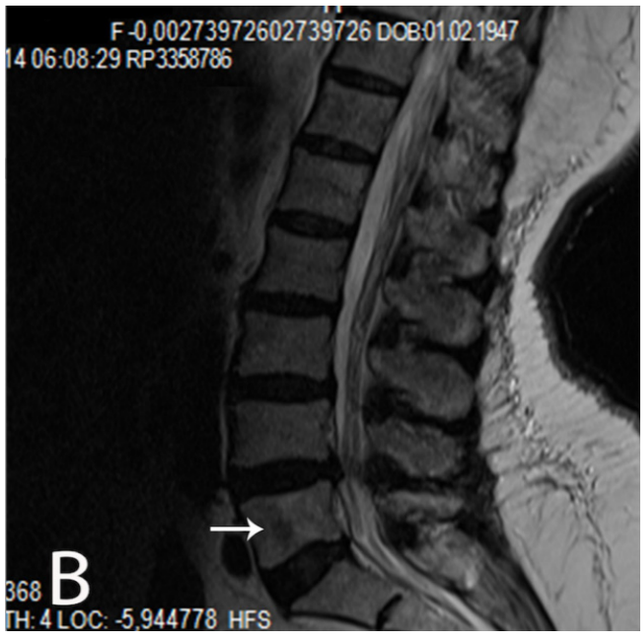

Figure 1. Lumbar MRI showing focal lesion with suspected metastasis.

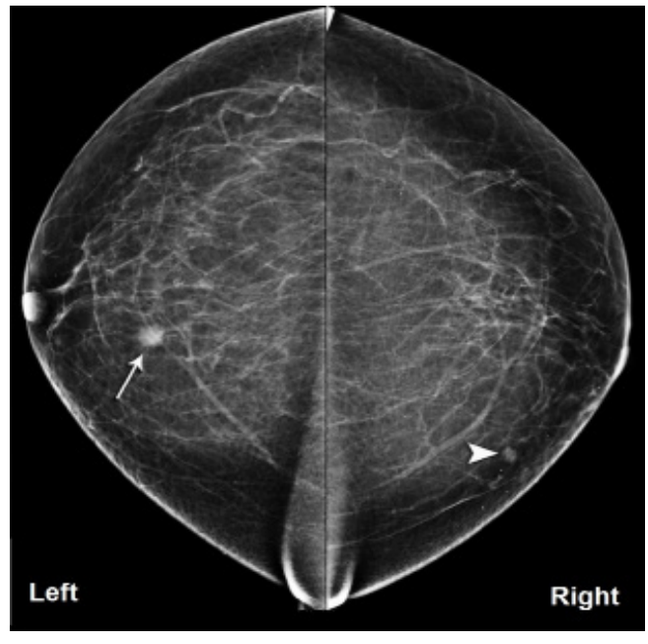

Figure 3. Mammographic images showing solid lesions in both breasts.

Discussion

Bilateral synchronous invasive breast cancer is rare with an incidence of less than 3% [2]. The most common presenting symptoms are usually a breast lump, pain in the breast, and nipple discharge. A lump in the breast is the most common complaint and has a high predictive value for malignancy [3-5]. Physical examination is crucial, and imaging modalities such as breast ultrasonography and mammography are key in guiding the clinician for further patient management. Given the rare presentation of this patient, however, the initial diagnosis was established with a PET/CT, unlike the traditional imaging modalities used in breast cancer diagnosis.

Cross-sectional studies estimate that by the year 2040, breast cancer will be the most common cancer [6]. Despite this increasing breast cancer incidence trends, death from breast cancer alone is expected to decline, which is attributed to improved screening and treatment modalities such as the increased usage of mammography and the adoption of endocrine therapy. [7-9] There still exists a window of opportunity to decrease breast cancer-related deaths by increasing access to high-quality prevention programs and offering better care through various treatment services.

The incidence of a carcinoma presenting in both breasts is nearly 3%, where the presence of a synchronous tumor is 0.6% and the presence of a metachronous tumor is 2.2% [10]. They may result from genetic predisposition, environmental risk factors, or an accumulation of various events throughout the lifetime [11]. A patient with a history of breast cancer is almost five times more likely to develop contralateral breast cancer than those who are unaffected [12]. Therefore, it is essential to continue screening individuals with a history of breast cancer who have already received treatment and who were already cured.

Treatment of breast cancer is stage-dependent and should be patient-tailored to meet the needs of each individual. Nonmetastatic cancers are usually treated with surgical resection and sampling or removal of the axillary lymph nodes, and postoperative radiation therapy can be considered. Neoadjuvant or adjuvant systemic therapies may be administered where hormone-positive tumors are treated with endocrine therapy, ERBB2 positive tumors are treated with the monoclonal antibody trastuzumab, and triple-negative tumors are treated with chemotherapy alone [13]. Treatment of metastatic breast cancer is mostly palliative, but the same principles apply. [13]

Conclusion

Breast cancer is the most common type of cancer among women and a common cause of cancer death. Studies suggest an increasing trend in the incidence of breast cancer in the future but a decrease in mortality due to improved screening programs and treatment modalities. Clinicians should keep in mind that not all women will present with typical symptoms of breast cancer, which were all absent as seen in this case. Rarely, a bilateral carcinoma can be detected. Hence, a thorough history taking, performing a complete physical examination, and choosing the correct radiological imaging modality can help a physician manage a patient and be able to detect tumors at an early stage.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

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